

RESPONSE under 37 C.F.R. § 1.111
U.S. Appl. No. 09/750,386

IN THE DRAWINGS:

The appended drawing sheets include an annotated version showing changes made to Fig. 2 (sheet 2) and a clean version. This sheet replaces the previous replacement to Fig. 2 which was submitted with Applicant's amendment of July 14, 2004.

ATTACHMENT: Replacement Fig. 2
 Annotated Fig. 2 showing changes

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REMARKS

Claims 1-23 and 25-27 are all the claims pending in the present application and all claims stand rejected. Reconsideration and allowance of all pending claims are respectfully requested in view of the following remarks.

OBJECTIONS.

Drawings

The Office Action continues to object to Fig. 2 alleging an improper shape illustrating filter element 57. While Applicant continues to disagree for the reasons of record, Applicant submits herewith, an amendment to the drawing which is believed to address the objection. In view thereof, reconsideration of this objection is respectfully requested.

Specification

The Office Action apparently continues to object to Applicant's specification as not including a "Brief Summary of the Invention." Applicant submits that contrary to Applicant's previous requests, it has never been established that there is any regulation, rule or requirement that a Brief Summary must be included in every patent application; only a suggested format for placement if one is included. Applicant respectfully submits that there is no such requirement and in the absence of the Examiner pointing out any rule or regulation to the contrary, requests reconsideration of this objection. To this end, Applicant notes that this objection was previously indicated as withdrawn by the Examiner on page two of the Advisory Action dated 11/29/2005. Thus Applicant believes the brief reiteration of this objection may be in error. If however, it is not an oversight, Applicant respectfully requests clarification of this objection and citation of the rule or regulation upon which the objection to the specification is based.

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CLAIM REJECTIONS.

35 U.S.C. § 112

Claims 7-9 and 16 are rejected under 35 U.S.C. § 112, first paragraph, as being non-enabling. Applicant respectfully traverses this rejection for the reasons that follow.

Initially, Applicant notes that this rejection was previously indicated as being withdrawn on page 2 of the 11/29/05 Advisory Action and believes the recitation of this rejection in the present Office Action to be an inadvertent oversight. Notwithstanding, if this rejection is not in error, Applicant respectfully requests that this rejection, its subsequent withdrawal, and further reinstatement be clarified. Applicant reiterates its previous response to this rejection, namely that the Examiner has not met the *prima facie* burden of showing why Applicant's "presumptively accurate disclosure" would not enable one of ordinary skill in the art to make or use the invention recited in claims 7-9 and 16 without undue experimentation.

Because the claims 7-9 and 16 are rejected, it is incumbent on the Examiner to show why these claims, which do not recite either a "1 bit" A/D converter or a BPSK modulator referenced on page 4 of the 4/4/06 Office Action, are non-enabled. Since the limitations in question are not even recited in the rejected claims, the rejection does not appear to have relation to these claims. Because the Office Action has not provided any reasoning or evidence why the skilled artisan would not be able to make or use the invention claimed, *prima facie* non-enablement has not been established. See, e.g., *In re Wright*, 999 F.2d 1557 (Fed. Cir. 1993). In the absence of meeting this *prima facie* burden, reconsideration and withdrawal of this rejection are respectfully requested.

35 U.S.C. § 103

All of Applicant's pending claims are rejected under 35 U.S.C. § 103(a) as being unpatentable over previously cited U.S. 5,392,042 to Pellon alone, Pellon in view of B. Sklar's

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"Digital Communications, Fundamentals and Applications" (hereinafter referred to as Sklar) or Pellon in view of Sklar in further view of U.S. patent 6,577,674 to Ko et al. (hereinafter "Ko"). Applicant respectfully traverses all of these rejections for the following reasons.

LEGAL STANDARD

It is well established that a *prima facie* obviousness is only established when three basic criteria are met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Vaack*, 947 F.2d 488 (Fed. Cir. 1991) (MPEP 2144).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Korzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990).

PELLON

Claims 1-4, 10-12, 14, 17-21, 23 and 25-27 are rejected as being unpatentable over Pellon alone. The 4/4/06 Office Action alleges that Pellon discloses all the limitations of these claims with the exception of *a multiplier to extract an in-phase part of the IF signal*. Thus the Office Action admits that Pellon fails to teach or suggest all the limitations present in the foregoing claims. On this basis alone, *prima facie* obviousness has not been established the rejection based on Pellon alone must be withdrawn.

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Applicant notes that while Pellon does disclose that its Sigma Delta modulator could be used with heterodyned receivers (col. 19, ll. 12-19), it does not teach or suggest *a multiplier to extract an in-phase part of the IF signal after subtraction of the feedback signal* as recited in Applicant's independent claim 1 or related limitations present in Applicant's other independent claims 11 and 19.

As pointed out in its response of 7/14/2004, it is the combination of a down converter within a sampling and digitization system as a single integrated system which is not disclosed or suggested by any prior art reference or combination of references. One advantage of Applicant's IF/baseband feedback architecture is that placing the down conversion components (e.g., filters, multipliers, oscillators, etc.) within the digitization and sampling system, allows noise shaping properties conventionally applied in the digitization and sampling system to also shape noise resulting from mixing which may provide more flexibility and/or reduce costs in selecting and/or using various mixing components. (Specification pg. 12, ll. 12).

Thus the Office Action allegation that Pellon's sampling system suggests use with a down conversion mixer (i.e., heterodyned) in no way teaches or suggests to the skilled artisan that down conversion should be performed within the digitization and sampling feedback loop itself. The Office Action correctly notes the status of this art before Applicant's invention by stating "in a heterodyne receiver the RF signal is first down converted into a IF signal and then into a baseband signal (I/Q) and then sampled." (4/4/06 Office Action pg. 6). There is no suggestion however that Pellon's Delta Sigma feedback loop should include any signal down conversion. To this end, Applicant was not incorrect as alleged on page 2 of the Office Action. The embodiment disclosed in Pellon Fig. 7a clearly shows that no down conversion is performed within its digitization and sampling architecture 700 and the corresponding detailed description make it evident that only the IF signal is of interest for sampling and quantization in this radar detection scheme. The Pellon paragraph at col. 19, ll. 11-20 identified by the Examiner only suggests that the Sigma Delta loop in Fig. 7 could be used to process respective I or Q baseband

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signals (instead of IF signals) for radar applications which uses heterodyne signal detection techniques. There is no down conversion or "mixing" of these signals within the Pellon Delta Sigma system or, for that matter, any suggestion or apparent reason why I and Q baseband signals would have any communications encoded data modulated within them since the radar itself sends and detects the same signal (albeit reflected signature).

Nevertheless, since Pellon does not teach or suggest *multiplying the subtracted (feedback) signal by an oscillator signal to generate a baseband signal for quantization (claim 18); a multiplier to isolate a portion of the subtracted signal (feedback signal subtracted from an IF signal) having encoded information (claim 11); or a multiplier to extract an in-phase part of the IF signal after subtraction of the feedback signal (claim 1)*, Pellon cannot render any of Applicant's claims obvious.

PELLON IN VIEW OF SKLAR

Claims 5-6, 15 and 22 are rejected as being unpatentable over the combination of Pellon and Sklar. The Office Action admits that Pellon fails to teach or suggest a signal generator that is a modulator or an amplitude shift key (ASK) modulator and relies on Sklar to make up for these deficiencies alleging it would have been obvious to modify Pellon with an ASK modulator "as a switching device and this is analogous to the switching device described in Pellon, thus satisfying the limitations of the claim." (4/4/06 Office Action pg. 7).

To the extent the reasoning can be comprehended, Applicant respectfully submits that there is no proper motivation, benefit or advantage for the skilled artisan to replace a switching device (?) in Pellon with a different switching device in Sklar. Simply because references can be modified or combined does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). Because there is no apparent objective reason to modify the "switching device" of Pellon with that of

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Sklar, it is respectfully submitted that *prima facie* obviousness has not been established on this basis alone.

Furthermore, while the bottom of pg. 6 of the Office Action alleges that "Pellon discloses a portable communications device comprising.....a multiplier to extract an in-phase part of the IF signal after subtraction of the feedback signal...," at the top of the same page, the Office Action admits that Pellon does not explicitly disclose a multiplier to extract an in-phase part of the IF signal." Respectfully, there does not appear to be a multiplier disclosed or suggested anywhere by Pellon; nonetheless, one which performs down conversion of a signal within the Delta Sigma loop described by Pellon (see Pellon Fig. 7a).

Because Pellon and Sklar, taken alone or in combination, fail to teach or suggest at least the *multiplier* or *multiplying* limitations of Applicant's independent claims 1, 11 and 19, and because rejected claims 5-6, 15 and 22 include these limitations by virtue of their dependency on claims 1, 11 or 19, *prima facie* obviousness has not been established.

PELLON IN VIEW OF SKLAR IN FURTHER VIEW OF KO

Claims 7, 9, 13 and 16 are rejected as being unpatentable over the Pellon, Sklar and Ko. The Office Action alleges the combination of Pellon and Sklar disclose all the limitations of these claims with the exception of *a local oscillator coupled to the modulator* (claim 7 or claim 16) or *an oscillator coupled to the multiplier* (claim 13). The Office Action attempts to make up for these deficiencies by citing Ko.

Applicant respectfully submits that this rejection fails for at least the same reasons that the rejection based on Pellon or Pellon in view of Sklar fail. Namely, there is no proper motivation to even combine the Pellon with Sklar and the specific *multiplier* and *multiplying* down conversion limitations after subtraction of the feedback signal which are inherently present in claims 7, 9, 13 and 16 are simply not disclosed or suggested by any prior art or combination of

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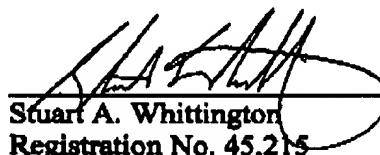
prior art. Since Ko does not make up for the deficiencies of Pellon and Sklar noted above, it is respectfully submitted that *prima facie* obviousness has not been established with respect to the rejection based on Pellon, Sklar and Ko.

For at least the foregoing reasons, Applicant respectfully requests reconsideration and withdrawal of all §103 rejections set forth in the 4/4/06 Office Action.

CONCLUSION.

In view of the above, reconsideration and allowance of this application is now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below. Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee or deficiency thereof, except for the Issue Fee, is to be charged to Deposit Account # 50-0221.

Respectfully submitted,


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Date: July 6, 2006

042390.P9858

Appin. No. 09/750,386
Reply to Office Action of April 4, 2008
ANNOTATE SHEET SHOWING CHANGES

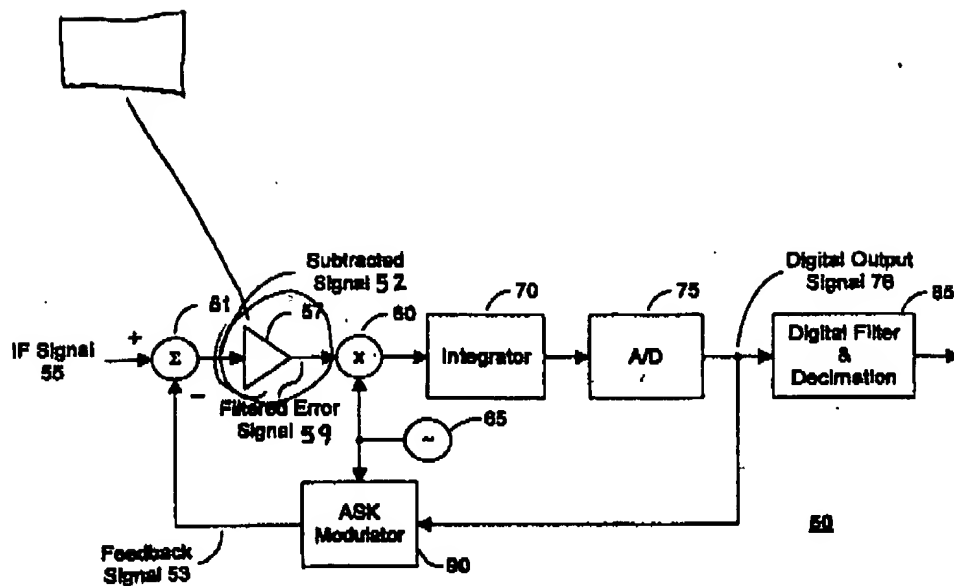


Fig. 2